

Notice of Allowability

Application No.

10/099,716

Examiner

Paul Contino

Applicant(s)

OKIN, KENNETH

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 26 July 2005.
2. ☒ The allowed claim(s) is/are 21-41.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

NOTICE OF ALLOWANCE

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Stephen J. Curran (Reg. No. 50,664) on September 7, 2005 and September 29, 2005.

2. The application has been amended as follows:

In claim 29 in line 3: please **replace** "the processor-based system" **with** "the computing system"

In claim 33 in line 2: please **replace** "forming" **with** "providing"

In claim 33 in line 2: please **replace** "the" **with** "a"

In claim 33 in line 3: please **replace** "forming" **with** "providing"

In claim 33 in line 6: please **replace** "forming" **with** "providing"

In claim 33 in line 7: please **replace** "the computing" **with** "a computing"

In claim 33 in line 8: please **replace** "forming" **with** "providing"

In claim 40 in line 1: please **replace** "22" **with** "33"

In claim 41 in line 1: please **replace** "22" **with** "33"

In claim 41 in line 2: please **replace** “the processor-based system” **with** “the computing system”

Allowable Subject Matter

3. Claims 21-41 are allowed.

4. The following is an examiner’s statement of reasons for allowance:

5. As in claim 21:

A semiconductor device for use in a computing system, **the semiconductor device comprising:**

a plurality of processors formed on the semiconductor device;

a plurality of input/output (I/O) controllers formed on the semiconductor device and coupled to the plurality of processors such that *each* of the plurality of processors is coupled to *each* of the plurality of I/O controllers; and

a plurality of I/O interfaces formed on the semiconductor device and coupled to convey the data between the plurality of I/O controllers and the computing system;

wherein **the plurality of I/O controllers are arranged to form a switching fabric including a plurality of communication channels configured to convey data between *any* of the processors and *any* of the (I/O) interfaces;**

wherein at least a portion of the processors and at least a portion of the I/O controllers are redundant.

Claims 22-32 are allowed based upon their dependence to claim 21.

6. As in claim 33:

A method comprising:

providing a plurality of processors **on a semiconductor device**;

providing a plurality of input/output (I/O) controllers formed **on the semiconductor device**;

interconnecting *each* of the plurality of processors to *each* of the plurality of I/O controllers; and

providing a plurality of I/O interfaces formed **on the semiconductor device** for interconnecting the plurality of I/O controllers and [a] computing system;

providing a switching fabric by arranging the plurality of I/O controllers and including a plurality of communication channels configured to convey data between *any* of the processors and *any* of the (I/O) interfaces;

wherein at least a portion of the processors and at least a portion of the I/O controllers are redundant.

Claims 34-41 are allowed based upon their dependence to claim 33.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 5,136,498 McLaughlin et al. discloses redundant processors and controllers. U.S. Patent No. 5,953,314 Ganmykhi et al. discloses redundant processors and switching fabrics. U.S. Patent No. 3,623,011 Baynard, Jr. et al. discloses multiple processors and I/O controllers.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The examiner can normally be reached on Monday-Friday 7:30 am - 5:00 pm, first Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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9/29/2005



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PRIMARY EXAMINER